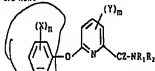


92-155374/23  
SHEL INT RES MJJ 68  
SHEL 90.11.28  
90.11.28 90GB-025828 (92.04.03) COTD 213/66, A01N 43/40,  
COTD 213/78, 213/81, 213/83  
New 2-phenoxy-pyridine-6-(thio)carboxamide derivs. - useful as  
herbicides, against grasses and broadleaf weeds with selectivity to  
small grain cereals (Eng)  
CY2-68488  
Adm. Date: FOSTER C J, GILKESON T, STOCKER R, GLANDRE J J  
91.11.28 91EP-203922

2-Phenoxy-6-pyridine-(thio)carboxamide derivs. of formula  
(1) are new:



$n = 1-5$ ;  
 $X =$  H; halo; alkyl or alkoxy (opt. subst. by halo, CN,  
OH and/or alkoxy),  $\text{CH}_3$ ,  $\text{NO}_2$ , alkenyloxy, alkynylalkoxy,  
alkylthio, haloalkylthio, alkenylthio or alkynylthio;  
 $m = 1-3$ ;  
 $Y =$  halo, alkyl or haloalkyl;

CP-D4, 12-P8)

$Z = 0$  or  $S$ ;

$R_1, R_2 = \text{H}$ , alkyl opt. subst. by 1 or more of halo, OH,  
CN, alkoxy, alkylthio, alkoxybenzyl or mono- or  
di-alkylamino, alkenyl, alkynyl, cycloalkyl, or opt.  
subst. cycloalkylalkyl, or OH, alkoxy, alkenyloxy,  
alkynylalkoxy, alkoxybenzyl,  $\text{NH}_2$ ; mono- or di-  
alkylamino, alkoxybenzylamino, ethylamino opt.  
subst. by halo, or dialkylcarbamoyl;

or  $R_1 + R_2 =$  alkylene opt. interrupted by O, S or HR;

$R = \text{H}$  or alkyl.

#### MORE SPECIFICALLY

$n = 1-2$  (esp. 1);

$X = \text{H}$ , F, Cl, Br,  $\text{NO}_2$ , Et, OH or  $\text{CF}_3$  (esp. 3- $\text{CF}_3$ ,  
3-OH or 3-Cl);

$R_1 = \text{H}$ , 1-4C alkyl or 2-4C alkenyl (esp. H);

$R_2 = \text{H}$ , 1-4C alkyl, 1-4C alkyl subst. by F, OH, CN, OH,  
OEt, COOMe, COOEt or mono- or di-(1-2C alkyl)-  
amino, 3-6C cycloalkyl, 2-4C alkenyl, 2-4C alkynyl,  
1-4C alkoxy, 1-4C alkylamino, 2-4C alkenyloxy,  
COOMe, COOEt, 3-7C alkoxybenzylamino, di(1-3C  
COOMe, COOEt, 3-7C alkoxybenzylamino, di(1-3C

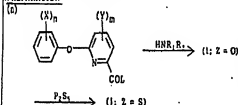
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alkylcarbamoyl, arylamino (opt. subst. by halo) or  
halo-(3-6C)cycloalkyl-(1-4C)alkyl (esp. Et, Pr, cyclo-  
propyl or cyclobutyl);  
or  $R_1 + R_2 = (\text{CH}_2)_4$ ,  $(\text{CH}_2)_5$ ,  $\text{O}(\text{CH}_2)_2$  or  $(\text{CH}_2)_2\text{NR}(\text{CH}_2)_2$ ;  
 $R = \text{H}$  or Et.

#### USE/ADVANTAGE

(1) are herbicides active against a wide spectrum of  
grasses and esp. broadleaved weeds (e.g. blackgrass, wild  
oat, giant foxtail, green foxtail, morning glory, cleavers,  
black nightshade, speedwell and chickweed), when applied  
pre- or post-emergence. They exhibit selectivity to small  
grain cereals (e.g. maize, wheat, barley and rice) and to  
broad-leaf crops (e.g. soya, sunflower and cotton).  
Application rate is 0.01-10 (pref. 0.05-4) kg/ha.

#### PREPARATION



L = leaving gp.

(b)



$\text{M} =$  alkali metal.

#### EXAMPLE

A mixt. of 6-(3-trifluoromethylphenoxy)picolinic acid  
(1.5g) and  $\text{SOCl}_2$  (20 ml) was refluxed for 1 hr. Excess  
 $\text{SOCl}_2$  was evapd. in vacuo and  $\text{CH}_2\text{Cl}_2$  (20 ml) added.  
A soln. of *n*-propylamine (8.6g) and  $\text{Et}_3\text{N}$  (1g) in  $\text{CH}_2\text{Cl}_2$   
(20 ml) was added dropwise at ambient temp.

After work-up, the residue was purified by silica gel  
chromatography, eluting with 5% (v/v) ether/ $\text{CH}_2\text{Cl}_2$ , to  
give 1.5g. *N*-*n*-propyl-2-(3-trifluoromethylphenoxy)-6-  
pyridinecarboxamide (1a) as an oil.

(1a) was applied (pre-emergence) at (a) 5 and (b) 1  
kg/ha. 12 Days after appln. herbicidal effect (0 = no  
effect; 9 = complete kill) was assessed visually.

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Results were:

(a): barnyard grass (BG), oats (O), mustard (M), sugar-  
beet (SB) 9; maize (Ma), rice (R), linseed (L) 9; soya-  
bean (S) 7.

(b): BG, M, SB 9; O 8; S 7; Ma, R, L 6.

(38p98SPDPDgNa0/0).

SR:1.Int.Ref EP176 EP32011 JP63017811 US4251263 US4270946

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